GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:2942
ANSWERED ON:16.12.2015
Basic Science Laboratories
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Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) whether the Government proposes to build one of the world"s largest basic science laboratories to understand the very fundamental nature of the universe;

(b) if so, the details thereof and the locations selected for setting up of laboratories along with the expenditure likely to be incurred thereon;

(c) the manner and extent to which it is likely to help in the research work;

(d) whether the locals of proposed area of the laboratories are opposing such laboratories;

(e) if so, the details thereof and the reasons therefor;

(f) whether the Government proposes to shift the location of the proposed laboratories; and

(g) if so, the details thereof and the action taken in this regard?

Answer

MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES
(SHRI.Y. S. CHOWDARY)

(a) Yes, Madam. It has been decided to build India-based Neutrino Observatory (INO) which will be a large basic science laboratory and will help to understand the fundamental nature of the Universe.

(b) The location for INO is in the Bodi West Hills region, about 2 km from the nearest village Pudukottai in Pottipuram Panchayat, Theni District of Tamil Nadu. Poromboke land measuring 26.82.5 hectares has been given by the Tamil Nadu Government free of cost for the purpose of establishing the laboratory at Pottipuram. An Inter-Institutional Centre for High Energy Physics (IICHEP) will be located in Madurai, near Madurai Kamaraj University. This will be the nodal centre for all INO-related activities on site as well as in various collaborating institutions across the country. A piece of land measuring 12.15.5 hectares has also been acquired from the Tamil Nadu Government for setting up IICHEP. The financial approval for the project was given by the Central Government on 24th December 2014 with a budget of Rs. 1584 crores. The project will be jointly funded by the Department of Atomic Energy and the Department of Science and Technology.

(c) The project will focus on front-ranking physics research with elementary particles called neutrinos, including development of detectors to detect them and measure their properties and subsequent physics studies. Precise measurement of neutrino properties, for example the difference in behaviours of neutrinos and antineutrinos, is expected to throw light on some fundamental aspects of the evolution and structure of the Universe such as matter-antimatter asymmetry. It may be noted that this year"s Nobel Prize in Physics was awarded to two neutrino physicists. This is the main science goal of the project. However, any such large basic science project also results in technological benefits which will serve the larger interests of the society. Development of detectors and associated electronics that will take place as part of the INO project has already generated big interface between INO and industry. This will have cascading benefit over time. Such an underground facility will also help carry out other studies in physics, biology, geology, etc., making use of the special conditions that exist deep underground. Students of science and technology within the country, particularly those residing in Tamil Nadu and neighbouring states, will have the opportunity to participate in research involving cutting-edge science and technology.

(d) & (e): Initially, locals at the project site had some apprehensions about the impact of the project. However, extensive public awareness and outreach activities were undertaken by the scientists of the INO project to keep the locals informed about the objectives of this mega science project as well as the benefits it will bring to the local communities. In addition to this and in order to be even more transparent, INO arranged a public meeting near the project site on July 8, 2010 which was attended by more than 1000 local people. All questions raised by the locals during this meeting were answered to their satisfaction, after which the Theni District Collector, who chaired the meeting, announced that the project will be executed with the approval of the local Panchayats. Various surveys, fencing and civil works were progressing well at both Theni and Madurai sites, when work at the underground laboratory site at Theni got stalled due to a PIL filed earlier this year. This came up before the Madurai bench of the Hon"ble Madras High Court which asked for submission of the Tamil Nadu Pollution Control Board (TNPCB) clearance before the research activities could begin. The application for the above clearance has been submitted to TNPCB in May 2015 and the clearance is awaited. The PIL, however,

has created confusion in the minds of local people about the project.

(f) No, Madam. Pottipuram site under the Bodi West Hills range is the most suitable site for this project as it falls under a low seismic zone. The rock is extremely stable and strong, which facilitates easier and safer construction of tunnels and underground caverns. The environmental impact assessment of the project has also confirmed the suitability of the chosen site.

(g) Does not arise.

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